

## Contribution of Sericulture in the Socio-economic Transformation of the Workers

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### ABSTRACT

Business age is one of the significant possibilities of sericulture and silk industry. Sericulture has emerged as the most important cash crop due to its low investment, high employment potential, short gestation period, and high return. It works well for the Tribal's agrarian economy. Reasonable for each part of society, a major rancher or a landless, matured individual or a young, man or a lady. utilizes straightforward technology that is simple to comprehend and adapt to. Sericulture has benefited low-income and socially disadvantaged groups by providing downstream employment and income generation in rural and semi-urban areas. This study explore that how sericulture satisfy the chances of occupation for ancestral. The study reveals that sericulture is an activity with high output and low investment. The review closes for certain ideas to work on the drawn out achievability of sericulture. In the agricultural sector, sericulture is a cash crop; It returns within 30 days, assisting rural residents in the socioeconomic transition. In sericulture, the whole scope of exercises produce a moderate progression of pay and sets out work open doors for a significant segment of low gifted peripheral rustic occupants who might somehow stay jobless or masked utilized in immense horticultural area. The cottage and small scale sector includes these industries, which rely on farm labor. Mulberry cultivation generates employment on farms in the silkworm seed industry. Mulberry leaves are used as input in the silkworm raising industry, which gives the family of mulberry growers the capacity to employ a large number of people and earn a living. Sericulture with its remarkable elements assumes a significant part in updating the financial states of the rustic society and with business open doors to the informed country youth and ladies worker. The paper aims to shed light on the significance of sericulture and discuss strategies for generating employment in the Indian sericulture industry in light of its significance. The study concludes with some recommendations for enhancing the long-term viability of sericulture.

**Keywords:** Sericulture; Tribal; Income; Socio-economic; Worker.

### Introduction

Farming is back-bone of Indian economy and recognized as main sector for rural people's employment and income. The substantial share of rural livelihood is derived from agricultural occupation that cannot provide full and satisfactory employment to farmers under the era of product competition and nature, industrialisation, urbanisation, current climate change, etc. Therefore, transformation and diversification of agricultural practices is one of the best solution and aspects which need to be emphasized to achieve the objective of alleviation of rural poverty. Besides the farming, the activities that generate employment potentially and substantially are-collection of NTFPs, dairy, fisheries, poultry, horticulture, sericulture, etc.

Sericulture is an eco-accommodating agro-based worker escalated and financially appealing monetary action, falling under bungalow and limited scope area. The sericulture industry as a whole is a long-chain industry that includes everything from growing mulberries to making fabric. Sericulture contributes significantly to the social and economic advancement of rural populations. Sericulture is one of the well-known businesses that offered a high income and improved standard of living to the entire family by providing full-time employment.

Sericulture in India is a fairly organized activity that is in the cottage industry segment and is largely rural based and labour intensive. Cultivation is spread Over 22 states. Covering 172000 hectares across 54000 villages operating 258000 handlooms and 29340 power looms (Dewangan, et. al., 2011). India continues to be the second largest producer of silk in the world. In 2012-13 the total raw silk production of 23679 MT and In 2013-14 the production increased up to 26480 MT and in 2015-16 it goes up to 28523 MT. The employment generation in the country is

raised to 8.25 million persons in 2015-16 compared to 7.85 million persons in 2013-14 (Annual Report of Sericulture, 2016). One hectare of sericulture land can create remunerative employment for 13 persons per year (Datta, 1988). Even the small farmer with his meagre capital base, make rupees 14000 gross income from an acre of irrigated land (Balasubramanian, 1986).

A farmer can earn Rs. 19997 from one acre of irrigated land (Reddy, 1985). The net returns in case of Mulberry sericulture (when a farmer has one acre of mulberry plantation using family labour) is estimated at about Rs. 48,000/- per annum which is substantially high compared to that of other tropical crops (Dandin, et al., 2005). The creation of employment and income in silk reeling units is dealt with in (Radhakrishna, et al., 2000) where they found that an acre of irrigated mulberry generates as much as one lakh rupees per year through transactions of cocoons and provide full employment to a minimum of 5 men throughout the year.

Presently in Chhattisgarh three types of silk viz., 'Mulberry', 'Tasar' and 'Eri' silk are producing. Tasar is actually named as Kosa. Sericulture is being practiced by the tribal of traditional Districts of Bastar, Raigarh, Bilaspur and Surguja. Sericulture activities covered 43760 acres. The total number of Tasar center is 285 (12551.93 Acres), Tasar plantation under CGSP is 155 sites (10000 Acres), Tasar rearing in forest is (18827.9 Acres), Natural Raily Cocoons Area is 500 sq. kms and mulberry gardens are 117 (2380.5 Acres). The total beneficiaries are 51310 in numbers out of them 32,429 are Scheduled Tribe (Dewangan, et. al., 2010).

Sericulture is an agro-based industry. It involves rearing of silkworms for the production of raw silk, which is the yarn obtained out of cocoons spun by certain species of insects. The major activities of sericulture comprises of food-plant cultivation to feed the silkworms which spin silk cocoons and reeling the cocoons for unwinding the silk filament for value added benefits such as processing and weaving.

## Material and Methods

Based on the potential and production of tasar/mulberry cocoons, the present investigation was conducted in block Dharamjaigarh of Raigarh district, Chhattisgarh state, where both mulberry and tasar sericulture are practiced. The major tasar-growing region in the Raigarh district is home to tribal sericulture. Tasar silkworm raising has been happening beginning around 1956-57 and raising of mulberry silkworm began in the year 1982-83. 312042 acres were used for sericulture. Dharamjaigarh has provincial crowded blocks with complete geological region is 2006.69, square kilometers. Dharamjaigarh has a population of 207030 according to the 2011 census. Sex proportion is 1004 and population density is 135 for every Sq km.

At first, the names of the beneficiaries and a list of sericulture villages were obtained from the local sericulture department in block. For the purpose of data collection, four villages with 25 beneficiaries each were selected at random from the block listed above. As a result, each block selected 100 beneficiaries. The ranchers were post characterized into fundamental and extra in view of the work. There were three types of information that were sought from the respondents or beneficiaries. The first type dealt with information that was general. The second type of information that was sought was related to occupational status, employment days per year, total monthly income, occupation prior to sericulture, duration of sericulture work, average annual income from the previous occupation, crop harvests per year, cocoon production, and profit from each crop. The third type of data focused on

losses from sericulture, as well as compensation from the government and loans based on need, total labor time, shifts in economic status, shifts in annual income from sericulture, and displacement from sericulture. Using a variety of statistical tools, including, primary and secondary data were analyzed. mean, mode and middle where the circumstance is the premise of upward got.

## **Result and Discussion**

On the basis of study, the analysis pertaining to employment, income, occupation, risks factor and social impact. In Dharamjaigarh & Gharghoda Blocks analysis of the first type of information related that the Kachha houses are 100%. On the other hand Pakka house are nil. Regarding ownership of house in study area, all the respondents have their own house.

### **Working Member in Family**

It is observed that in Dharamjaigarh block the number of working members in 8 families only 1 and the same way in 51 families 2, in 23 families 3, in 15 families 4 and in 3 families 5 members are working. It is clear through the analysis that 3 members are involved in the occupation from the average families.

It means there is a positive attitude of the members from each family. Sericulture was adopted as Secondary occupation by 100% beneficiaries from Dharamjaigarh.

### **Employment Days (Man Days) from Sericulture**

In Dharamjaigarh block 26% respondents received employment for 100-150 days and 74% received 151-200 days. 201-300 days' employment received by 23% respondents and 301-365 days employment receiver's respondents is 1%. The employment site is situated their own village where they got employment from sericulture activity.

### **Income from Sericulture**

The data indicate that total average monthly income in Dharamjaigarh is only Rs. 3770.00. Whereas from the forest minor produce collection and disposal (once in a year) the average income of the respondents has been estimated for Dharamjaigarh Rs. 5350.00.

DFLs were supplied from Sericulture centers and their demand of DFLs was easily fulfilled by the State sericulture department. The economic status in old occupation is normal for 82 and bad for 118 and very poor for NIL respondents.

### **Cocoon Production and Profit**

It is observed in the study area that 18 respondents from Dharamjaigarh take only one crop in a year while 11 from Dharamjaigarh take two crop in a year. In Same manner 71 respondents from Dharamjaigarh block take 3 crops in a year. The numbers of cocoon produced are 6350/ crop/ beneficiaries in Dharamjaigarh.

The economic gain by the respondent of Dharamjaigarh is Rs.5160/-. The yearly production of cocoons by the respondent of Dharamjaigarh 18900 number. Average annual income about Rs 16980/- for Dharamjaigarh.

### **Socio-economic Development of Sericulture Sector in Raigarh District**

Sericulture sector provide Socio- economic development activities as the following:

- **In Employment generation:** Sericulture is the part of the agriculture activities in the state. More than 60 lakh people are engaged in various sericulture activities. It generates more employment opportunities when compare to other industry, especially in rural and semi- urban areas. So, sericulture is used as a tool for rural reconstruction in the state.
- **Low gestation:** About 12000 to 15000 this investment is enough for undertaking mulberry cultivation and silkworm rearing in one acre of irrigated land. Mulberry takes only 6 months to grow for commencement of silkworm rearing mulberry once planted will go on supporting silkworm rearing year after year for 15- 20 years depending on management provided. By adopting stipulated package of practice, a farmer can get up to Rs. 30000 per acre/ per annum.
- **High returns and Women Empowerment:** 60 percent of the women employed in down- stream activities sericulture in the country. This achievement is possible because sericulture sector starting from mulberry garden management, leaf harvesting and silkworm rearing.
- **Ideal Programme for Weaker Sections of the Society:** Sericulture is an ideal programme for weaker section of the society because low gestation, higher returns. Acres of mulberry garden and silkworm rearing can avoid maximum labourers and save wages in the sericulture sector of the state. Tasar silkworm process can offer supplementary gainful employment for tribals compare to other sericulture activities.
- **Eco-friendly Activity:** Sericulture sector is an eco-friendly activity because as a perennial crop with good foliage mulberry contributes to soil conservation and provides greenery. Waste from silkworm rearing can be recycled as inputs to garden. Development programmes initiated for Mulberry plantation are mainly in upland areas where un-used cultivable land is made productive.
- **Satisfies Equity Concerns:** Sericulture activities enable the low income rural people as can reach higher income groups.

Sericulture is an agriculture-based industry playing a vital role in development of the rural economy of our country. High employment potential, high returns, regular income at fixed intervals, women friendly & eco-friendly nature of occupation, are some of the salient features of sericulture. Further, the domestic consumption and export of silk & silk goods also contributes to the economy. Raw silk production, consumption, import and export of silk in the country during each of the last three years and the current year are given in Table 1.

The income effect of this sericulture industry on a large number of disadvantaged artisans represents the opportunity, which has the potential to have a significant impact on society as a whole. Low growth period and fast turnover makes sericulture ideal for poor and minor country occupant. Neediness and pay disparity can be tackled in the event that extension of sericulture can be supported in the provincial area. In sericulture, it has been observed that the primary producers receive 57% of the final value. This Sericulture area isn't just significant for creating rustic business and forestalling country relocation yet in addition for security and protection of nature, financial change, legacy and socio-social qualities. Sericulture gives over half work to the respondent in a year subsequently stops the between state movement.

**Table 1.** Statistics of Sericulture in India

S.No.	Year	Total Tasar Silk Production (Mt)	Total Raw Silk Production (Mt)	Employment Generation (Lakh) Foreign	Exchange Earning (USD) Million
1	2009-10	803	19,690	68.17	609.58
2	2010-11	1166	20,410	72.50	628.57
3	2011-12	1590	23,060	75.60	491.10
4	2012-13	1729	23,679	76.53	423.37
5	2013-14	2619	26,480	78.50	410.61
6	2014-15	2434	28,708	80.30	471.00
7	2015-16	2819	28,530	82.50	389.53
8	2016-17	2734	28,142	81.67	407.10
9	2017-18	2749	28,430	81.95	384.5
10	2018-19	2997	35,468	83.84	291.00
11	2019-20	2983	35,820	84.93	247.00
12	2020-21	2934	33,770	82.42	198.00
13	2021-22	2713	26,587	78.61	211.00

SOURCE: Ministry of State for Textiles.

As per the MNREGA (Mahatma Gandhi Public Country Business Certification Act) populace should get 100 days' work in a year, though sericulture gives 151-200 days business i.e., 54%. Respondents' incomes nearly doubled as a result of these practices compared to their earlier incomes. It is noteworthy that because sericulture is now their way of life, tribal people have adopted it and conserve the environment by not cutting down trees or felling them.

Highway relocation is checked on the grounds that sericulture turns out extra revenue at their entryway level. Customary investment funds propensity has been created by sericulture rehearses among the clans since they procure significantly more than their way of life. It is striking that sericulture is fit the way of life of clan since training of sericulture is straightforward and should be possible with practically no expense and expertise. The fact that farmers can adopt sericulture without difficulty and in the shortest amount of time is one benefit. It can involve everyone in the family, and the work can be managed alongside their regular activities. When a farmer starts sericulture, it almost always results in the creation of additional downstream jobs in reeling and weaving, either in the household or organized sectors. Respondent who had been once causing the exhaustion of woods assets are currently keen on its assurance including them in advancing appropriate measures through the Sericulture. They have come to the realization that the Tasar silkworm's consumption of forest food plants is a component of the ecosystem as a whole, and they have moved toward protecting forests to preserve forest resources.

## Suggestions

- (1) The public authority ought to give them remunerations for the misfortunes brought about in this occupation because of illnesses and the adverse consequence of normal variables.
- (2) There ought to be sufficient credit offices to improve their occupation which is even more useful.
- (3) Along with sericulture, the government ought to encourage them to make clothes.
- (4) Contract farming with NGOs and corporate participation in the post-cocoon sector, as well as public-private partnerships.
- (5) Reduction of forest and timber cutting and redirection to farm and nonfarm activities, and contour bunding's protection of forest land from significant soil erosion.
- (6) Planting Tasar food plants on degraded land is a fundamental strategy for conserving biodiversity.
- (7) Using well-thought-out and long-lasting measures, Sericigenous moth diversity must be preserved. Protection of backwoods bio-variety requires local area association, particularly ancestral'.

## Conclusion

The Silk industry is one of the industries that's currently blooming in Raigarh along with other industries producing iron ore, steel and power in the country. There are two types of silk produced in the Raigarh district; they are Tasar Silk & Mulberry Silk. The production of Silk is the main livelihood for some of the villagers in this district and many of them have now started running units for producing Silk sarees and dress materials for export. Income generation process of the silkworm rearing people are threatened by some significant supply side constraints, which includes several types of inefficiency starting from technological inefficiency, cost inefficiency, labour inefficiency and market inefficiency. It is found in study that wild Tasar biodiversity is facing unparalleled threat of extinction from their natural habitat due to environmental degradation and other related issues like deforestation, unsustainable fuel wood extraction, unplanned agricultural practices, encroachment into forest land for agriculture and forest settlements, forest fire, over grazing, non-adoption of adequate soil conservation measures. This would have direct impact on food plants of different wild silk moths. Reduction of human pressure on the forest has been observed through increased sericulture activities.

## Declarations

### Source of Funding

The study has not received any funds from any organization.

### Competing Interests Statement

The authors have declared no competing interests.

### Consent for Publication

The authors declare that they consented to the publication of this study.



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